

ABSTRACT

An internal combustion engine having a centrifugally-responsive vacuum release mechanism that relieves a vacuum within a combustion chamber during the expansion stroke of an engine at engine starting speeds. The vacuum release mechanism is disposed adjacent the cam and engages a cam follower at engine starting speeds to unseat an engine valve while an engine piston is moving toward a crankcase and away from the combustion chamber. When the engine rotation speed reaches a desired kick-out speed, the centrifugal force transitions the vacuum release mechanism from an engaged position to a disengaged position. The vacuum release mechanism engages the cam follower to separate the cam follower from the cam when the vacuum release mechanism is in the engaged position. When the vacuum release mechanism is in the disengaged position during normal operating speeds, the cam follower is permitted to contact the cam throughout the entire rotation of the cam.

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